**Analysis of IA Samples – IB Biology Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

*Instructions*: Go to Google Classroom (Class code 74u2p2u) and select the “classwork” tab at the top of the screen. Open the following documents under the section marked “IB Biology HL Student Analysis – Part I (PE & RQ).”

* + Example IA – Fruit Ripening
	+ Example IA – Fungal Degradation of Plastic
	+ Example IA – Plant Growth
	+ IA Grading Sheet

*Answer the following questions as you analyze good and bad IAs*:

1. Your Personal Engagement (PE) section carries 2 marks (points) for your IA. Although it doesn’t carry the weight of other sections, it is perhaps one of the easiest sections on which to obtain a perfect score. Read the “Personal Engagement” section of the file “IA Grading Sheet.” What are the two broad categories for which you will be graded for this section?

 Mark 1: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Mark 2: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. Compare a good PE statement to a bad PE statement.

a. The “personal engagement” section of the “Fruit Ripening” IA is under the section header, “Purpose.” Read this section. Did the student provide *some* justification for choosing the research topic? Explain your answer.

b. Although there is justification for selecting the research topic, there is little demonstration of how curiosity or personal interest drove the selection of the topic. Read the PE statement of the “Fungal Degradation of Plastic” IA, and explain why this PE statement is better than the “Fruit Ripening” PE statement at demonstrating how curiosity or interest drove the selection and design of the research topic.

3. How could the author of the fruit ripening IA improve her justification for choosing this research topic? (Hint: This is not a cookie-cutter answer. Use the example in 2b to craft an engagement statement with more personal interest.)

4. Read the “Introduction” section of the “Plant Growth” IA. The student who wrote the “Plant Growth” IA mentioned she “wanted to learn more” about the potential symbiotic relationship between plants and fungi after she learned a little about fungal hyphae in class.

a. Did the student *demonstrate* or *identify* her personal significance, interest or curiosity in the topic.

b. Which one (demonstrate *or* identify) was she supposed to do according to the “IA Grading Sheet.”

5. Why do you think the IB wants evidence of “personal input” in the designing or implementation of *your* IA?

6. Compare the personal engagement sections of the example IAs. Do you think you can write in first person using the word “I” in the personal engagement section?

7. Glance at the other sections of each IA. Does the author continue to use first person throughout their IA?

8. Look at the grading criteria for research questions (RQ) under the “Exploration” section of the “IA Grading Sheet.” What two qualities make up a good research question?

9. Referring to your answers to question #8, which one of the two qualities is missing from the RQ of the “Plant Growth” IA that is in the RQ of the “Fruit Ripening” IA?

10. How could the author have improved the following aspects of the RQ of the “Plant Growth” IA? (Hint: Read the IA a little further to find more details to add specificity, i.e., species names, type of vitamin, etc., to the following sections of the RQ.)

 a. “Effects” – \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 b. “Vitamins” – \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 c. “Lima beans” – \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

11. Research questions must address a relationship between an Independent Variable (IV) and a Dependent Variable (DV). Identify these variables in the research question of the “Fruit Ripening” IA.

 a. IV: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 b. DV: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

12. Although the “Fruit Ripening” IA has a fairly focused research question, read her “Introduction” section and identify in the space provided below how she could add more specific details about how she will measure her IV and DV in her RQ. (Hint: It’s ok if you don’t understand the chemistry in the introduction. You’re just looking for ways to make the RQ more specific.)

 a. IV: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 b. DV: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Main Task**:

(1) Use the knowledge gained in this IA analysis worksheet to submit a relevant, focused research question (RQ). Submit your RQ using the “IA Student Template” in Google Classroom. (Draft your RQ in the section found after the “Background Information” section of your “IA Student Template.”) The red text in the template is advice to help you complete each section. You should type where you see black font. Eventually, all red text will disappear prior to final submission of your IA. If you’re stuck and need help choosing an RQ, open the “IA Topic Generator” document under the section marked, “How to Select Your Topic?”

(2) Once your RQ is approved, you will be given the green light to draft a personal engagement statement.